Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A method comprising:

administering a composition according to claim 31, comprising at least one ligand for a pattern recognition receptor molecule family of receptors and a delivery vehicle, to a subject.

2. (Original) The method of claim 1, wherein a ligand for a pattern recognition receptor comprises a ligand for a signaling pattern recognition receptor.

3. (Previously presented) The method of claim 2, wherein said signaling pattern recognition receptor comprises at least one receptor selected from Toll-like receptors TLR-1, TLR-2, TLR-3, TLR-4, TLR-5, TLR-6, TLR-7, TLR-8, TLR-9, TLR-10, TLR-11 and TLR-12, and mannan-binding lectins, and macrophage mannose receptor and scavenger receptors.

4. (Original) The method of claim 3, wherein said ligand comprises a ligand for TLR-2, TLR-3 and/or TLR-9.

5. (Original) The method of claim 1, wherein a ligand for a pattern recognition receptor comprises a ligand for an endocytic pattern recognition receptor or scavenger receptor or mannose-binding receptor.

6. (Original) The method of claim 1, further comprising modulating an immune response in said subject.

7. (Original) The method of claim 6, wherein modulating an immune response comprises augmenting an immune response.

8. (Original) The method of claim 6, wherein modulating an immune response comprises down regulating an immune response.

9. (Original) The method of claim 6, wherein modulating an immune response comprises augmenting an immune response in a subject disposed of cancer.

10. (Previously presented) The method of claim 9, wherein cancer comprises one or more selected from lung cancer, skin cancer, liver cancer, bone marrow cancer, leukemia, ovarian cancer, breast cancer, prostate cancer, colon cancer, lymphoma, brain cancer, renal cell cancer, and cancers of mesenchymal tissues.

11. (Original) The method of claim 6, wherein modulating an immune response comprises augmenting an immune response in a subject disposed of an infectious disease.

12. (Previously presented) The method of claim 11, wherein said infectious disease is caused by one or more organisms selected from a viral pathogen, a fungal pathogen, a bacterial pathogen, a rickettsial pathogen, a parasitic pathogen and a prion pathogen.

13. (Original) The method of claim 6, wherein modulating an immune response comprises augmenting or suppressing an immune response in a subject disposed of an allergic disease.

14. (Original) The method of claim 13, wherein said allergic disease is caused by an abnormal immune response against an endogenous non-self antigen.

15. (Original) The method of claim 14, wherein said non-self antigens comprise at least one of the group consisting of inhaled allergens, cutaneous allergens and oral allergens.

16. (Original) The method of claim 6, wherein modulating an immune response comprises modulating an immune response in a subject disposed of an autoimmune disease.

17. (Original) The method of claim 16, wherein said autoimmune disease is caused by an abnormal immune response against self antigens.

18. (Previously presented) The method of claim 17, wherein the abnormal immune response against self antigens is caused by at least one antigen from antigens derived from the nervous system, antigens derived from the joints, antigens derived from the blood elements, antigens derived from the kidneys, and antigens derived from the eyes.

19. (Original) The method of claim 6, wherein modulating an immune response comprises modulating an immune response in a subject disposed of a disease due to abnormal production of proteins in the body.

20. (Original) The method of claim 16, wherein said autoimmune disease is caused by an abnormal production of proteins.

21. (Original) The method of claim 20, wherein the abnormal production of proteins comprises proteins selected from the group consisting of abnormal proteins in the brain, abnormal proteins of the kidneys, and abnormal proteins of the joints.

22. (Original) The method of claim 21, wherein the abnormal proteins of the brain includes abnormal protein of the brain or blood as in the case of in Alzheimer's disease.

23. (Previously presented) The method of claim 1, wherein said administration comprises administration by at least one route selected from intravenously, intraperitoneally, by inhalation, subcutaneously, intrademally, intranodally, intramuscularly, intranasally, orally, rectally, intravaginally, intravesicularly, intraocularly, and topically.

24-30. (Canceled)

31. (Previously presented) A composition comprising:

a ligand for the pattern recognition molecule family of receptors; and

a delivery vehicle wherein said ligand is complexed to or within the delivery vehicle and said composition is capable of inducing an immune response in a subject.

32. (Original) The composition of claim 31, wherein inducing an immune response comprises inducing an innate immune response.

33. (Original) The composition of claim 32, wherein the innate immune response comprises an innate immune response by macrophages, neutrophils, NK cells, and/or dendritic cells.

34. (Original) The composition of claim 31, wherein the delivery vehicle comprises a liposome.

35. (Original) The composition of claim 34, wherein the ratio of liposome to ligand comprises about 1:1 to about 100:1mmol liposome to mg ligand.

36. (Original) The composition of claim 34, wherein said ratio of liposomes to ligand is about 16:1 or about 8:1mmol liposome to mg ligand.

37. (Previously presented) The composition of claim 34, wherein said liposome comprises at least one liposome selected from a positively charged liposome; a negatively charged liposome; and a neutral liposome.

38. (Original) The composition of claim 31, wherein said delivery vehicle comprises any combination of liposomes.

39. (Original) The composition of claim 37, wherein said positively charged liposome is complexed to a ligand for the pattern recognition molecule family of receptors.

40. (Original) The composition of claim 34, wherein said liposome consists of a mixture of charged and neutral lipids of DOTIM (1-(2-(oleoyloxy)ethyl)-2-oleyl-3-(2-hydroxyethyl)imidazolinium) and cholesterol in a 1:1 molar ratio.

41. (Original) The composition of claim 31, wherein the delivery vehicle is non-liposomal.

42. (Previously presented) The composition of claim 41, wherein the non-liposomal delivery vehicle comprises at least one vehicle selected from polypeptides, polyamines, chitosan, PEI, polyglutamic acid, protamine sulfate, and microspheres.

43. (Original) The composition of claim 34, wherein said ligand comprises a TLR ligand.

44. (Original) The composition of claim 43, wherein the TLR ligand comprises any portion of a bacterium.

45. (Original) The composition of claim 44, wherein any portion of a bacterium further comprises any portion of a bacterium that associates with a TLR.

46. (Previously presented) The composition of claim 45, wherein said TLR ligand comprises any portion of a bacterium that associates with at least one of TLR-1, TLR-2, TLR-3, TLR-4, TLR-5, TLR-6, TLR-7, TLR-8, TLR-9, TLR-10, TLR-11 and TLR-12.

47. (Original) The composition of claim 43, wherein the TLR ligand comprises any portion of a fungal organism.

48. (Original) The composition of claim 47, wherein said TLR ligand comprises any portion a fungal organism that associates with a TLR.

49. (Previously presented) The composition of claim 37, wherein said any portion of a fungal organism further comprises any portion of yeast that associates with at least

one receptor selected from TLR-l, TLR-2, TLR-3, TLR-4, TLR-5, TLR-6, TLR-7, TLR-8, TLR-9, TLR-10, TLR-11 and TLR-12.

50. (Original) The composition of claim 43, wherein the TLR ligand comprises any portion of a multicellular organism.

51. (Original) The composition of claim 43, wherein the TLR ligand comprises any portion of a unicellular organism.

52. (Currently amended) The composition of claim 31, wherein said ligand comprises at least one of ~~the following~~ a glycoprotein, lipoprotein, glycolipid, carbohydrate, lipid, nucleic acid and/or protein or peptide sequence derived from any portion of a bacterial pathogen.

53. (Previously presented) The composition of claim 52, further comprising any portion of a bacterial pathogen that binds at least one receptor selected from TLR-l, TLR-2, TLR-3, TLR-4, TLR-5, TLR-6, TLR-7, TLR-8, TLR-9, TLR-10, TLR-11 and TLR-12.

54. (Previously presented) The composition of claim 31, wherein said ligand comprises at least one ligand selected from a glycoprotein, lipoprotein, glycolipid, carbohydrate, lipid, nucleic acid and and/or protein or peptide sequence derived from any portion of said fungal organism that associates with one or more receptors selected from TLR-l, TLR-2, TLR-3, TLR-4, TLR-5, TLR-6, TLR-7, TLR-8, TLR-9, TLR-10, TLR-11 and TLR-12.

55. (Original) The composition of claim 31, wherein said ligand comprises a glycoprotein, lipoprotein, glycolipid, carbohydrate, lipid, nucleic acid and/or protein or peptide sequence derived from any portion of a fungal organism.

56. (Original) The composition of claim 31, wherein the ligand comprises a glycoprotein, lipoprotein, glycolipid, carbohydrate, lipid, nucleic acid and and/or protein or peptide sequence derived from any portion of a viral organism.

57. (Original) The composition of claim 31, wherein the ligand comprises a glycoprotein, lipoprotein, glycolipid, carbohydrate, lipid, nucleic acid and and/or protein or peptide sequence derived from any portion of a rickettsial organism.

58. (Original) The composition of claim 31, wherein the ligand comprises a glycoprotein, lipoprotein, glycolipid, carbohydrate, lipid, nucleic acid and and/or protein or peptide sequence derived from any portion of a parasitic organism.

59. (Original) The composition of claim 31, wherein the ligand comprises a glycoprotein, lipoprotein, glycolipid, carbohydrate, lipid, nucleic acid and and/or protein or peptide sequence derived from any portion of an arthropod organism.

60. (Original) The composition of claim 31, wherein said ligand comprises a nucleic acid encoding a TLR ligand.

61. (Previously presented) The composition of claim 60, wherein said nucleic acid comprises at least one molecule selected from bacterial DNA, eukaryotic DNA, dsDNA, ssDNA a synthetic oligonucleotide, RNA, and synthetic RNA.

62. (Original) The composition of claim 61, wherein said oligonucleotide comprises at least one of poly I:C or related poly I:C oligonucleotides.

63. (Original) The composition of claim 31, wherein said ligand is a mixture of two or more different TLR ligands in ratios sufficient for eliciting an immune response.

64. (Original) The composition of claim 31, wherein said ligand consists of any molecule that associates with and/or stimulates a pattern recognition receptor.

65. (Original) The composition of claim 31, wherein said ligand comprises a synthetically generated ligand that binds to and stimulates a pattern recognition receptor.

66. (Previously presented) The composition of claim 31, further comprising a molecule with a steroid backbone.

67. (Original) The composition of claim 60, further comprising a DNA condensing agent.

68. (Original) The composition of claim 67, wherein the DNA condensing agent is polyethylenimine (PEI).

69. (Previously presented) A composition comprising:
at least one antigen;
an adjuvant composition comprising a delivery vehicle; and
at least one ligand for a pattern recognition receptor molecule; and
wherein said ligand is complexed to or within the delivery vehicle.

70. (Previously presented) The composition of claim 69, wherein said antigen and said ligand for a pattern recognition molecule receptor are both complexed to said delivery vehicle.

71. (Original) The composition of claim 69, wherein the ligand for the pattern recognition molecule receptor comprises a TLR receptor ligand.

72. (Original) The composition of claim 69, wherein said antigen comprises an intact microorganism.

73. (Previously presented) The composition of claim 72, wherein said microorganism comprises at least one organism selected from a viral organism, bacterial organism, fungal organism, protozoan organism, parasitic pathogenic organisms, rickettsial organisms, and arthropod organisms.

74. (Previously presented) The composition of claim 69, wherein said antigen comprises at least one molecule selected from a protein, a peptide, a carbohydrate, a lipoprotein; a glycopeptide, a glycoprotein, a glycolipid and a lipid.

75. (Original) The composition of claim 69, wherein said antigen is a cell.

76. (Previously presented) The composition of claim 75, wherein said cell comprises one or more of an autologous, or an allogeneic tumor cell.

77. (Original) The composition of claim 69, wherein said delivery vehicle comprises a liposome.

78. (Previously presented) The composition of claim 69, wherein said delivery vehicle comprises lipids selected from multilamellar vesicle lipids, extruded liposomes and unilamellar liposomes.

79. (Previously presented) The composition of claim 77, wherein said liposome comprises at least one of a positively charged liposome, a modified multilamellar liposome, a cationic liposome, a neutral liposome and a negatively charged liposome.

80. (Previously presented) The composition of claim 69, wherein said delivery vehicle comprises at least one pair of lipids selected from DOTMA and cholesterol; DOTAP and cholesterol; DOTIM and cholesterol; DDAB and cholesterol.

81. (Original) The composition of claim 69, wherein said delivery vehicle comprises a non-liposomal delivery vehicle.

82. (Previously presented) The composition of claim 81, wherein the delivery vehicle comprises at least one vehicle selected from polypeptides, polyamines, chitosan, PEl, polyglutamic acid, protamine sulfate and triclosan.

83. (Previously presented) A method for vaccinating comprising:

administering to a subject a composition according to claim 71, comprising an antigen,

an adjuvant composition including a delivery vehicle, and

a TLR ligand, to a subject.

84. (Previously presented) The method of claim 83, wherein said antigen and said TLR ligand are both complexed to said delivery vehicle.

85. (Previously presented) The method of claim 83, further comprising administering said composition by a route selected from intravenously, intraperitoneally, by inhalation, subcutaneously, intradermally, intranodally, intramuscularly, intranasally, orally, rectally, intravaginally, intravesicularly, intraocularly, and topically.

86. (Original) The method of claim 83, further comprising augmenting an immune response in a subject disposed of cancer.

87. (Previously presented) The method of claim 86, wherein the cancer comprises at least one cancer selected from of lung cancer, skin cancer, liver cancer, bone marrow cancer, ovarian cancer, breast cancer, prostate cancer, colon cancer, lymphoma, brain cancer, renal cell cancer, and cancers of mesenchymal tissues.

88. (Original) The method of claim 83, further comprising augmenting an immune response in a subject disposed of infectious disease.

89. (Previously presented) The method of claim 88, wherein said infectious disease comprises at least one disease selected from a disease due to a viral pathogen; a fungal pathogen, a bacterial pathogen, a ricketssial pathogen, a parasitic pathogen, an arthropod pathogen, and a prion pathogen.

90. (Previously presented) An adjuvant composition comprising

at least one antigen,

a delivery vehicle; and

at least one ligand for a pattern recognition receptor molecule.

91. (Previously presented) The composition of claim 90, wherein said antigen is incorporated into said delivery vehicle and then mixed with a ligand for a pattern recognition molecule receptor.

92. (Original) The composition of claim 91, wherein said ligand for a pattern recognition molecule receptor comprises a TLR ligand.

93. (Original) The composition of claim 90, wherein the delivery vehicle comprises a liposome.

94. (Original) The composition of claim 93, wherein the ratio of liposome to TLR ligand is from about 1:1 to about 100:1nmol liposome per ng TLR ligand.

95. (Previously presented) The composition of claim 93, wherein said liposome consists of at least one molecule selected from a positively charged liposome, a negatively charged liposome; a cationic liposome; and a modified multilamellar liposome.

96. (Original) The composition of claim 95, wherein said cationic liposome further comprises said cationic liposomes complexed to bacterial DNA.

97. (Original) The composition of claim 90, wherein said delivery vehicle consists of a mixture of charged and neutral lipids.

98. (Original) The composition of claim 90, wherein said TLR ligand comprises any portion of a bacterium that associates with a TLR.

99. (Original) The composition of claim 90, wherein said TLR ligand comprises a bacterial cell wall component.

100. (Previously presented) The composition of claim 90, wherein said TLR ligand binds at least one receptor selected from TLR-l, TLR-2, TLR-3, TLR-4, TLR-5, TLR-6, TLR-7, TLR-8, TLR-9, TLR-10, TLR-11 and TLR-12.

101. (Original) The composition of claim 90, wherein said TLR ligand binds TLR 2, TLR 5 or TLR 9.

102. (Original) The composition of claim 90, wherein said TLR ligand comprises a flagellin protein.

103. (Original) The composition of claim 102, wherein said flagellin protein comprises the minimal portion of flagellin capable of binding and activating a TLR 5.

104. (Original) The composition of claim 90, wherein said TLR ligand comprises a nucleic acid.

105. (Previously presented) The composition of claim 104, wherein said nucleic acid comprises at least one molecule selected from bacterial DNA, eukaryotic DNA, synthetic oligonucleotide, and RNA.

106. (Previously presented) The composition of claim 105, wherein said RNA comprises at least one molecule selected from double-stranded RNA, single-stranded RNA and synthetic RNA.

107. (Original) The composition of claim 90, wherein said TLR ligand comprises at least one of poly I:C and poly I:C related oligonucleotides that is capable of binding TLR3.

108. (Original) The composition of claim 90, wherein said TLR ligand comprises any portion of a fungal or a yeast organism.

109. (Original) The composition of claim 108, wherein the portion of a fungal or a yeast organism comprises any portion of a cell wall of the organism.

110. (Original) The composition of claim 90, wherein said TLR ligand comprises a mixture of two or more different TLR ligands in ratios sufficient for eliciting immune responses.

111. (Original) The composition of claim 90, wherein said TLR ligand consists of any ligand that associates with and/or stimulates a TLR.

112. (Previously presented) A method of treating a subject with cancer comprising:

administering a composition according to claim 31, comprising at least one ligand for a pattern recognition receptor and a delivery vehicle, in conjunction with at least one cancer therapy wherein said method elicits a response in a subject disposed of cancer.

113. (Original) The method of claim 112, wherein said cancer therapy comprises at least one therapy consisting of hyperthermia therapy, radiation therapy, chemotherapy, photodynamic therapy (PDT), surgery, ultrasound, and focused ultrasound.

114. (Original) The method of claim 112, wherein the order of administering the therapy generates different responses.

115. (Original) The method of claim 114, wherein radiation therapy is introduced first.

116. (Original) The method of claim 114, wherein radiation therapy is introduced last.

117. (Original) The method of claim 114, wherein radiation therapy is introduced concurrently.

118. (Original) The method of claim 112, wherein the pattern recognition receptor ligand comprises a nucleic acid molecule.

119. (Original) The method of claim 112, wherein the pattern recognition receptor ligand comprises bacterial DNA.

120. (Original) The method of claim 112, wherein the delivery vehicle comprises a liposome.

121. (Original) The method of claim 112, wherein the delivery vehicle comprises a non-liposomal delivery vehicle.

122-142. (Canceled)

143. (Previously presented) A method comprising:

administering a composition according to claim 31, comprising at least one ligand for a pattern recognition molecule receptor, and a delivery vehicle, to a subject

wherein said composition increases bone healing.

144. (Original) The method of claim 143, wherein the composition is administered prior to a bone graft.

145. (Original) The method of claim 143, wherein the ligand is encapsulated by an extended release material.

146. (Previously presented) A method comprising:

administering a composition according to claim 31, comprising at least one ligand for a pattern recognition molecule receptor, and a delivery vehicle, to a subject

wherein said composition is capable of relieving injury.

147. (Original) The method of claim 146, wherein the injury comprises at least one of oxidative stress injury and/or apoptotic mediated injury.

148. (Original) The method of claim 147, wherein the injury comprises mucositis, serositis, parenchymal injury, reperfusion injury, or radio and/or chemotherapy associated injury.

149. (Original) The method of claim 146, wherein the composition further initiates an innate immune response.

150. (Original) The method of claim 146, wherein the composition is administered to a subject of advanced age.